MODELING OF RADIATIVE HEAT TRANSFER IN THE UPPER DILUTE ZONE OF CIRCULATING FLUIDIZED BEDS

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ABSTRACT. A 3-D model predicts the radiative heat transfer in the upper dilute zone of circulating fluidized beds (CFB) of rectangular cross-section. The radiative equation is solved with the Discrete Ordinates Method, using experimentally determined temperature and solids concentration distributions as the model parameters. Some general computing results are presented and the influence of radiation from the bed walls on the radiative transfer coefficient measurements in laboratory-scale CFBs is then estimated from the numerical simulation.